

$N(1900)$ P_{13}

$I(J^P) = \frac{1}{2}(\frac{3}{2}^+)$ Status: $\ast\ast$

OMITTED FROM SUMMARY TABLE

The latest GWU analysis (ARNNDT 06) finds no evidence for this resonance.

$N(1900)$ BREIT-WIGNER MASS

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
≈ 1900 OUR ESTIMATE			
1879 \pm 17	MANLEY 92	IPWA	$\pi N \rightarrow \pi N$ & $N\pi\pi$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$			
1951 \pm 53	PENNER 02C	DPWA	Multichannel

$N(1900)$ BREIT-WIGNER WIDTH

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
498 \pm 78	MANLEY 92	IPWA	$\pi N \rightarrow \pi N$ & $N\pi\pi$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$			
622 \pm 42	PENNER 02C	DPWA	Multichannel

$N(1900)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
Γ_1 $N\pi$	
Γ_2 $N\pi\pi$	
Γ_3 $N\rho$, $S=1/2$, P -wave	
Γ_4 $N\eta$	(14 \pm 5) %
Γ_5 $N\omega$	(39 \pm 9) %
Γ_6 ΛK	(2.40 \pm 0.30) %
Γ_7 ΣK	

$N(1900)$ BRANCHING RATIOS

$\Gamma(N\pi)/\Gamma_{\text{total}}$	Γ_1/Γ
<u>VALUE</u>	
0.26 \pm 0.06	MANLEY 92 IPWA $\pi N \rightarrow \pi N$ & $N\pi\pi$
$\bullet \bullet \bullet$ We do not use the following data for averages, fits, limits, etc. $\bullet \bullet \bullet$	
0.16 \pm 0.02	PENNER 02C DPWA Multichannel

$\Gamma(N\eta)/\Gamma_{\text{total}}$	Γ_4/Γ
<u>VALUE</u>	
0.14 \pm 0.05	PENNER 02C DPWA Multichannel

$\Gamma(N\omega)/\Gamma_{\text{total}}$

VALUE	DOCUMENT ID	TECN	COMMENT
0.39±0.09	PENNER	02C	DPWA Multichannel

Γ_5/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
$(\Gamma_i \Gamma_f)^{1/2}/\Gamma_{\text{total}}$ in $N\pi \rightarrow N(1900) \rightarrow N\rho, S=1/2, P\text{-wave}$	MANLEY	92	IPWA $\pi N \rightarrow \pi N$ & $N\pi\pi$

$$(\Gamma_1 \Gamma_3)^{1/2}/\Gamma$$

VALUE	DOCUMENT ID	TECN	COMMENT
0.024±0.003	SHKLYAR	05	DPWA Multichannel
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.001±0.001	PENNER	02C	DPWA Multichannel

Γ_6/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.01±0.01	PENNER	02C	DPWA Multichannel

Γ_7/Γ

$N(1900)$ PHOTON DECAY AMPLITUDES

$N(1900) \rightarrow p\gamma$, helicity-1/2 amplitude $A_{1/2}$

VALUE (GeV $^{-1/2}$)	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •			
-0.017	PENNER	02D	DPWA Multichannel

$N(1900) \rightarrow p\gamma$, helicity-3/2 amplitude $A_{3/2}$

VALUE (GeV $^{-1/2}$)	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.031	PENNER	02D	DPWA Multichannel

$N(1900) \rightarrow n\gamma$, helicity-1/2 amplitude $A_{1/2}$

VALUE (GeV $^{-1/2}$)	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •			
-0.016	PENNER	02D	DPWA Multichannel

$N(1900) \rightarrow n\gamma$, helicity-3/2 amplitude $A_{3/2}$

VALUE (GeV $^{-1/2}$)	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •			
-0.002	PENNER	02D	DPWA Multichannel

$N(1900)$ REFERENCES

ARNDT	06	PR C74 045205	R.A. Arndt <i>et al.</i>	(GWU)
SHKLYAR	05	PR C72 015210	V. Shklyar, H. Lenske, U. Mosel	(GIES)
PENNER	02C	PR C66 055211	G. Penner, U. Mosel	(GIES)
PENNER	02D	PR C66 055212	G. Penner, U. Mosel	(GIES)
MANLEY	92	PR D45 4002	D.M. Manley, E.M. Saleski	(KENT)
Also		PR D30 904	D.M. Manley <i>et al.</i>	(VPI)